This Track 1 Decision Document is marked "Draft" but is a final document signed by the agencies.

\_\_\_\_\_ date <u>5/27/20</u>02

DOE/ID-10911 July 2001

# RECEIVED

SEP 0 4 2001

DEPT. OF ENVIRONMENTAL QUALITY TECHNICAL SERVICES OFFICE

# Site 006 Track 1 Decision Documentation Package, OU 10-08

# DECISION DOCUMENTATION PACKAGE COVER SHEET

Prepared in accordance with

# TRACK 1 SITES: GUIDANCE FOR ASSESSING LOW PROBABILITY HAZARD SITES AT THE INEEL

Site Description: Cistern North of NRF

Site ID: 006 Operable Unit: 10-08

Waste Area Group: 10

## I. SUMMARY – Physical description of the site:

This site consists of an abandoned concrete cistern, located on a 1909 homestead formerly belonging to W. Zetzschi, who claimed 160 acres of land along a canal dug in the Big Lost River system. It is located on an unnamed two-wheel track north of the Naval Reactor Facility (NRF), located approximately 4 mi. southwest. Because of its remote location and proximity to the Big Lost River (1/2 mi.), it is possible the site was also a former stage stop.

This site was originally listed as part of an environmental baseline assessment in 1994 and identified as a potential new waste site in 1995. In accordance with Management Control Procedure-3448, Reporting or Disturbance of Suspected Inactive Waste Sites, a new site identification form was completed for this site. As part of the process, a field team wrote a site description, and collected photographs and global positioning system (GPS) coordinates of the site (the GPS coordinates are E309535.909 by N745867.140). The GPS coordinate system is listed as North American Datum 27, Idaho East Zone, State Plane Coordinates. The new site identification process also included a search and review of existing historical documentation.

The initial site investigation reported that the cistern contained an unknown amount of clear liquid, approximately 10 ft below land surface, with viscosity similar to water. It was suggested that the liquid resulted from rain or snowmelt. A subsequent site investigation was conducted June 26, 2001 by INEEL WAG 10 and Cultural Resources personnel to determine if there was water remaining in the cistern and if so, to test the pH. The cistern did contain water; it was at least 10 ft from land surface to the surface of the water. The concrete inside the cistern was in excellent condition considering it was nearly 100 years old. It was estimated that the water in the cistern was at least one ft deep and the quantity estimated at over 1,000 gallons. The pH of the water was tested using litmus paper and it was a neutral 7. The diameter of the cistern at its base was approximately 10-12 ft. The only debris observed was a piece of wood and natural algae. There was no evidence of odor.

The Cultural Resources representative stated that the cistern is considered a culturally significant site that should be disturbed as little as possible. Debris surrounding the cistern indicated that it might have been a stage stop at one time. There were numerous pieces of old glass, porcelain, a partial arrowhead, a few empty cans, snuff tins and depressions where small shacks formerly stood.

## **DECISION RECOMMENDATION**

#### II. SUMMARY - Qualitative Assessment of Risk:

There is no evidence that a source of contamination exists at this site, nor is there empirical, circumstantial or other evidence of contaminant migration. The reliability of information provided in this report is high. Field investigations, interviews with Cultural Resource Management personnel, and photographs reveal no visual evidence of hazardous substances. Based on the current condition of this site, the lack of an existing source, the remote location and general lack of receptors, this site is not believed to present a danger to human health or the environment. Therefore, the overall qualitative risk at Site 006 is considered low.

# **III. SUMMARY - Consequences of Error:**

# False negative error:

The possibility of contaminant levels at this site being above risk-based limits is remote. Site investigations and testing for pH show no evidence of contamination; there is no likely potential for contaminant migration which may present a higher than anticipated risk.

## False positive error:

If further action were completed at this low risk site, funds could exceed the environmental benefit. Water sampling and analysis for organic compounds, metals, radionuclides and other hazardous constituents would be needed to verify the presence or absence of contamination. Based on existing information, there is no need for further action at this site.

### **IV. SUMMARY - Other Decision Drivers:**

INEEL Cultural Resource Management personnel determined that this site meets the requirements as a cultural resource. Prior to completing further field investigations, an intensive pedestrian inventory would need to be conducted. This survey would be required to identify and evaluate cultural properties within the area of potential effects for cleanup activities, conduct a preliminary assessment of the potential impact of cleanup on any identified properties, and develop preliminary avoidance strategies or data recovery plans if necessary to avoid adverse affects.

## **Recommended Action:**

It is recommended that this newly identified site be classified as No Further Action. Field investigations, interviews with Cultural Resource personnel, historical research, and photographs indicate it is highly unlikely that hazardous or radioactive materials were generated or disposed of at this site. It is located in a remote, abandoned area with no general pathways or receptors. NRF, the closest facility, is located approximately 4 miles southwest of the site. Nothing at Site 006 points to evidence of contaminant migration or historical or threatened release of hazardous substances, pollutants, or contaminants. Cultural Resources personnel stated that this site is similar to a number of other cisterns on the INEEL that do not pose an unacceptable risk to human health or the environment.

Signatures:	# Pages:	16	Date: July 24, 2001
Prepared By: Marilyn Paarmann, WPI		DOE W	AG Manager: When When
Approved By:			ndent Review: Ha

# DECISION STATEMENT (DOE RPM)

Date Received: 3/18/02

# **Disposition:**

The abandoned homestead cistern, site 006, was found to contain water, probably from snowment.

No remedial action is required for this site

Date: 4/02/62 # Pages: 1

Name: Kathleen Hain Signature: Vathleen E Hain

DECISION STATEMENT (EPA RPM)					
Date Received: 9/4/0/	10-68-006				
Disposition:  An old aboundanced liquid, site is not sites nor is depth create a pathway to Although only pH te	cister containing aqueous near known hogardous of cister such as to the underlying aquiter. esting was performed, There is usgest hogardous substances further remedial investigation				
Date: 9/20/0/ Name: Wayne Heggs	# Pages: Signature: Mulan Fulli				

	RPM)							
Date Received: September 4, 2001								
Disposition:								
Site #006								
have been a stage stop. The cistern is loo	the water in the cistern had a pH of 7 (litmus							
	·							
•								
Date: 2/6/02	# Pages:							
Name: Dean J. Mygard	Signature: Very Meyon L							

PROCESS/WA SITE ID: 006	PROCESS/WASTE WORKSHEET PROCESS: SITE ID: 006 WASTE:	S: Cistern North of NRF Liquid in Cistern
Col 1 Processes Associated With This Site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifacts/Structures/Disposal Areas Associated with this Waste or Process
1909 former homestead cistern used	Concrete cistern containing ~2000 gal of liquid.	Artifact: Concrete cistern/liquid
for water storage		<b>Location:</b> Former homestead site located along canal ~4 miles north of NRF. On unnamed two-wheel track near Big Lost River
		Description: Concrete cistern ~10-12 base diameter containing ~2,000 gallons of water (likely rain or snowmelt). One side of the cistern has a collapsed wall. Water is ~10 ft below ground level and measures pH of 7. Cistern contains natural algae and wood pieces.

CONTAMINANT WORKSHEET					
SITE ID: 006					
PROCESS: (Col 1) Cistern North of NRF		WASTE: (Col 2) Liquid in Cistern	ern		
Col 4 What Known/Potential Hazardous Substance/Constituents are Associated with this Waste or Process?	Col 5 Potential Sources Associated with this Hazardous Material	Col 6 Known/Estimated Concentration of Hazardous Substances/ Constituents	Col 7 Risk-based Concentration	Col 8 Qualitative Risk Assessment (hi/med/low)	Col 9 Overall Reliability (high/med/low)
None	Groundwater	None	NA	Low	High

NA = Not Applicable

Question 1.	What are the waste	generation processes	locations,	and dates of	operation	associated
with this site	e?					

This site consists of an abandoned concrete cistern, located on a former 1909 homestead/stage stop along a canal dug in the Big Lost River system. The cistern sits approximately 2 ft above ground and a large portion of one wall is collapsed. The cistern contains ~2,000 gallons of liquid. It is located on an unnamed two-wheel track north of NRF (approximately 4 mi. away). Because of its age, remote location and proximity to the Big Lost River (1/2 mi.), it is likely the cistern was used for homestead water storage.

Block 2 How reliable are the information sources? <u>X.High \_\_Med \_\_ Low</u> (check one) Explain the reasoning behind this evaluation.

This information was provided by INEEL Cultural Resources personnel who have maps of the area [prior to it becoming the National Test Reactor Facility (NRTS) in 1949] showing names of early homesteaders and extent of their property. Site investigations in 1999 and 2001 provided descriptions of the site and photographs.

Block 3 Has this INFORMATION been confirmed? X Yes \_\_No (check one) If so, describe the confirmation.

This information was confirmed with historical site maps and knowledge provided by Cultural Resources personnel, field investigations, and photographs.

No available information	[]		Analytical data	[]	
Anecdotal	[X]	2,5,6	Documentation about data	[]	
Historical process data	[]		Disposal data	[]	
Current process data	[]		Q.A. data	[]	
Photographs	[X]	4	Safety analysis report	[]	
Engineering/site drawings	[]		D&D report	[]	
<b>Unusual Occurrence Report</b>	[]		Initial assessment	[X]	3
Summary documents	[]		Well data	[]	
Facility SOPs	[]		Construction data	[]	
OTHER	[]				

Question 2.	What are the disposal	processes,	locations,	and dates o	f operation	associated v	with this
site? How v	was the waste disposed	i?					

This site consists of an abandoned concrete cistern containing ~2000 gallons of liquid, located on a former 1909 homestead/stage stop formerly belonging to a W. Zetzschi, who claimed 160 acres of land along a canal dug in the Big Lost River system. The cistern sits approximately 2 ft above ground and a large portion of one wall is collapsed. It is located on an unnamed two-wheel track north of NRF (approximately 4 mi. away). Because of its age, remote location and proximity to the Big Lost River (1/2 mi.), it is likely the cistern was used for homestead water storage. There is no evidence that waste was disposed to the cistern.

Block 2 How reliable are the information sources? X High \_\_ Med \_\_ Low (check one) Explain the reasoning behind this evaluation.

INEEL Cultural Resources personnel confirmed that this site is a historic homestead and the cistern was used for fresh water storage. Site investigations in 1999 and 2001 provided descriptions of the site and photographs.

Block 3 Has this INFORMATION been confirmed? X Yes No (check one) If so, describe the confirmation.

This information was confirmed with historical site maps and knowledge provided by Cultural Resources personnel, field investigations, and photographs.

No available information Anecdotal Historical process data	[] [X] []	2,5,6	Analytical data Documentation about data Disposal data	[] [] []
Current process data	[]		Q.A. data	
Photographs	[X]	4	Safety analysis report	[]
Engineering/site drawings	[]		D&D report	[]
Unusual Occurrence Report	[]		Initial assessment	[X] 3
Summary documents	[]		Well data	[]
Facility SOPs	[]		Construction data	[]
OTHER	[]			

Historical process data

Engineering/site drawings []

Unusual Occurrence Report []

Current process data

**Summary documents** 

Photographs

Facility SOPs

OTHER

[]

[X]

[]

ij

[]

4

Question 3. Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.					
Block 1 Answer:					
There is no evidence that a source exists at this site. There is no evidence of hazardous constituents in or around the cistern. The pH reading of the liquid was neutral. The cistern contained a piece of wood and natural algae. The liquid was clear, with viscosity similar to water, and was odorless. Cultural Resource personnel stated that this cistern is very similar to a number of others on the INEEL that are related to domestic homesteads or stage stops.					
Block 2 How reliable are the information sources? X_High Med _Low (check one) Explain the reasoning behind this evaluation.					
Interviews with Cultural Resource personnel revealed that this is a recorded historical/cultural resource. The cistern was likely used for water storage at the homestead/stage stop. Artifacts found at the site are domestic in nature, very old (predate INEEL activities), and pose no potential threat to human health or the environment.					
Block 3 Has this information been confirmed? _X_ Yes No (check one) If so, describe the confirmation.					
This information was confirmed with historical site maps, Cultural Resource historical research, field investigations, pH sample of the cistern liquid, and photographs.					
Block 4 Sources of Information [check appropriate box(es) & source number from reference list]					
No available information [ ] Analytical data [ ] Anecdotal [X] 2,5,6 Documentation about data [ ]					

Disposal data

Safety analysis report

Initial assessment

**Construction data** 

Q.A. data

Well data

D&D report

[]

[]

[X] 3

Question 4.	Is there empirical, circum	stantial, or other evidence o	of migration? If so, what is it?
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There is no evidence of migration. Site investigations reveal no visual evidence of hazardous constituents, odors, or disturbed, stained or discolored soil areas surrounding the cistern. A pH reading was taken of the liquid in the cistern and measured 7 (neutral) on the scale. Information provided by INEEL Cultural Resources states that this site was formerly a historic homestead/stage stop and the cistern was used for fresh water storage. The site contains cultural artifacts dating to the early part of the twentieth century.

Block 2 How reliable are the information sources? <u>X</u> High <u>Med</u> <u>Low</u> (check one) Explain the reasoning behind this evaluation.

The information was obtained from an environmental baseline assessment conducted in 1994, historical research, and subsequent site investigations conducted by Cultural Resource and WAG 10 Personnel.

Block 3 Has this information been confirmed? X Yes \_ No (check one) If so, describe the confirmation.

The information was confirmed through historical research, site inspections, pH sample results, and photographs.

No available information Anecdotal	[ ] [X]	2,5,6	Analytical data  Documentation about data	[]
Historical process data	[]	, ,	Disposal data	ĨĴ
Current process data	[]		Q.A. data	[]
Photographs	[X]	4	Safety analysis report	[]
Engineering/site drawings	[]		D&D report	[]
Unusual Occurrence Report	[]		Initial assessment	[X] 3
Summary documents	[X]	1	Well data	[]
Facility SOPs	[]		Construction data	[]
OTHER	[]			

Question 5. Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?
Block 1 Answer:

There is no expected pattern of potential contamination because there is no evidence of hazardous constituents at this site. The liquid in the cistern is clear, odorless, has viscosity similar to water, and measured 7 on the pH scale (neutral). The liquid is likely from rain and snowmelt. It is estimated that the depth of water in the cistern was ~1 ft and the cistern contained approximately 2,000 gallons of liquid. There is no evidence of disturbed, stained or discolored soil near the cistern. Based on interviews with Cultural Resource personnel, this site is a recorded 1909 homestead and the cistern was used for fresh water storage. This site may also have been a stage stop because of its proximity to the Big Lost River and artifacts left at the site. There is no evidence that the cistern is a source of potential contamination.

Block 2 How reliable are the information sources? <u>X</u>High <u>Med Low</u> (check one) Explain the reasoning behind this evaluation.

This information was obtained from an environmental baseline assessment and subsequent site investigations and sampling conducted by Cultural Resource and WAG 10 personnel. Photographs taken during the investigations show the condition of the cistern, artifacts, and present description of the site.

Block 3 Has this information been confirmed? X Yes \_\_No (check one) If so, describe the confirmation.

This information was confirmed through site inspections, photographs and Cultural Resource historical findings.

No available information	[]		Analytical data	[]
Anecdotal	[X]	2,5,6	Documentation about data	ĺĴ
Historical process data	[]		Disposal data	[]
Current process data	ĨĬ		Q.A. data	[]
Photographs	[X]	4	Safety analysis report	[]
Engineering/site drawings	[]		D&D report	[]
Unusual Occurrence Repor	t[j		Initial assessment	[X] 3
Summary documents	[X]	1	Well data	[]
Facility SOPs	[]		Construction data	[]
OTHER	[]			

Question 6. Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.					
Block 1 Answer:					
Site investigation and photographs indicate that the cistern is located approximately 2 ft above ground level with a base dimension of 10-12 ft. The liquid appears to be at least ~1 ft deep. The cistern is estimated to hold 2,000 gallons of liquid. Based on pH sample and visual evidence, there is no indication that a source is present at this site.					
Block 2 How reliable are the information sources? <u>X</u> High <u>Med Low</u> (check one) Explain the reasoning behind this evaluation.					
The information was obtained from an environmental baseline assessment, Cultural Resource and WAG 10 investigations, pH results, and photographs. The site assessments revealed no visual evidence of contamination.					
Block 3 Has this INFORMATION been confirmed? X YesNo (check one) If so, describe the confirmation.					
This information was confirmed through site inspections, pH testing results, photographs and INEEL Cultural Resource historical research.					
Block 4 Sources of Information [check appropriate box(es) & source number from reference list]					
No available information []					

Question 7.	What is th	ne known or esti	mated qua	antity of I	hazardous	substance/d	constituent a	at this
source? If	the quantity	y is an estimate,	explain ca	arefully h	now the est	imate was d	derived.	

The estimated quantity of hazardous substances/constituents at this site is near zero because there is no evidence of hazardous materials. The cistern contains clear liquid with viscosity similar to water. The debris inside the cistern consists of a piece of wood and natural algae. The pH measured 7, indicating neutral on the scale. There is no evidence of odor, or disturbed, stained or discolored soil surrounding the cistern. Based on artifacts and historical research, Cultural Resources stated that this is an old homestead/stage crossing and the cistern was likely used for fresh water storage for residents or travelers moving across the area during the early twentieth century.

# Block 2 How reliable are the information sources? <u>X</u>High <u>Med Low</u> (check one) Explain the reasoning behind this evaluation.

This evaluation is based on interviews, site visitations, sample results, and photographs of the area. There is no evidence of hazardous constituents at this site.

# Block 3 Has this INFORMATION been confirmed? X Yes \_ No (check one) If so, describe the confirmation.

This information was confirmed through site inspections, sample results, Cultural Resource historical research, interviews and photographs.

No available information	[]		Analytical data	[]
Anecdotal	[X]	2,5,6	Documentation about data	[]
Historical process data	[]		Disposal data	[]
Current process data	[]		Q.A. data	[]
Photographs	[X]	4	Safety analysis report	
Engineering/site drawings	[]		D&D report	[]
Unusual Occurrence Repor	t [ ]		Initial assessment	[X] 3
Summary documents	[X]	1	Well data	[]
Facility SOPs	[]		Construction data	[]
OTHER	[]			

Question 8.	Is there evidence that this hazardous substance/constituent is present at the source as
it exists tod	ay? If so, describe the evidence.

There is no evidence that a hazardous substance/constituent is present at levels that required action at this site. INEEL Cultural Resources personnel confirm that this is a historical homestead/stage stop dating to the early part of the twentieth century. Artifacts found at the site are domestic in nature, very old and predate INEEL activities. Site inspections and pH testing indicate that there is no potential source of contamination from the cistern liquid.

Block 2 How reliable are the information sources?\_X\_ High \_\_ Med \_\_Low (check one) Explain the reasoning behind this evaluation.

This evaluation is based on interviews, pH sample, site visitation, and photographs of the area.

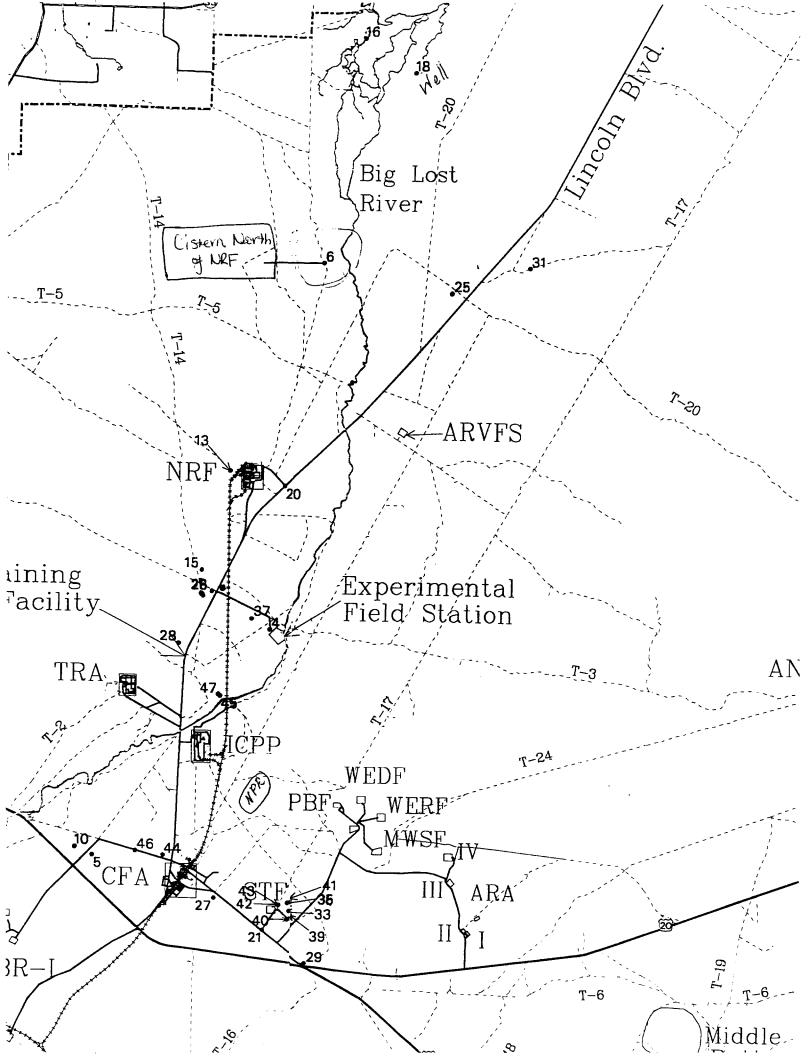
Block 3 Has this INFORMATION been confirmed? X\_Yes \_\_ No (check one) If so, describe the confirmation.

This information was confirmed through site inspections, sample results, Cultural Resource historical research, interviews and photographs.

No available information	[]		Analytical data	[]
Anecdotal	[X]	2,5,6	<b>Documentation about data</b>	[]
Historical process data	[]		Disposal data	[]
Current process data	[]		Q.A. data	[]
Photographs	[X]	4	Safety analysis report	[]
Engineering/site drawings	[]		D&D report	[]
Unusual Occurrence Report	[]		Initial assessment	[X] 3
Summary documents	[X]	1	Well data	[]
Facility SOPs	[]		Construction data	[]
OTHER	[]			

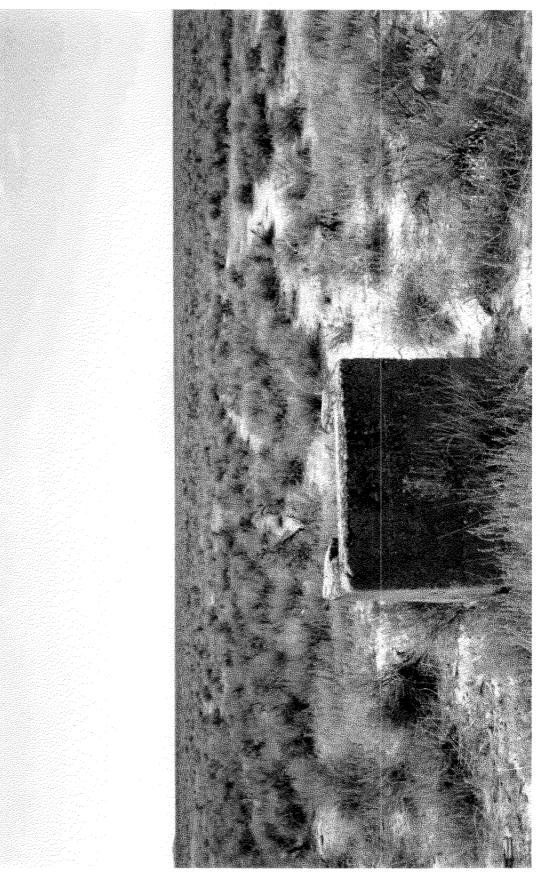
## **REFERENCES**

- 1. DOE, 1992, <u>Track 1 Sites: Guidance for Assessing Low Probability Sites at the INEL</u>, DOE/ID-10390 (92), Revision 1, U.S. Department of Energy, Idaho Falls, Idaho, July.
- 2. Interview with Environmental Baseline Assessment team members, February 6-7, 2001.
- 3. FY 1999 WAG 10 Newly Identified Sites, Volumes I and II.
- 4. Photographs of Site 006: PN94-0778-2-9A, PN94-0778-2-6A.
- 5. Interviews with Brenda Ringe Pace, INEEL Cultural Resources Management, February 7, 2001 and May 16, 2001.
- 6. Site investigation conducted by Tom Haney, WAG 10 and Brenda Ringe Pace, INEEL Cultural Resources Management, June 26, 2001.



# Attachment A

Photographs of Site #006



Site: 006, Cistern North of NRF (PN94-0778-2-6A)



Site: 006, Cistern North of NRF (PN94-0778-2-9A)



Site 006, Cistern north of NRF

# Attachment B

**Supporting Information for Site #006** 

435.36 04/14/99 Rev. 03

# **NEW SITE IDENTIFICATION**

Pa	rt A – To Be Completed By Observer	
1.	Person Initiating Report: Jacob Harris	Phone: 526-1877
	Contractor WAG Manager: Douglas Burns	Phone: 526-4324
2.	Site Title: 006, Cistern North of NRF	
3.	Describe the conditions that indicate a possible inactive or unreported waste site. condition, amount or extent of condition and date observed. A location map and/o survey points or global positioning system descriptors shall be included to help wit names or location descriptors for the waste site.	or diagram identifying the site against controlled
	This site is located along a canal 3.5-4 miles north of NRF. During the July 1999 sunknown amount of liquid was observed. The liquid is 10 feet below ground level water. GPS coordinates of the site are E309535.909 N745867.140. The reference the summary map as provided.	and appears to be clear with a viscosity similar to
Pa	rt B – To Be Completed By Contractor WAG Manager	
4.	Recommendation:	
	This site meets the requirements for an inactive waste site, requires investigal FFA/CO Action Plan. Proposed Operable Unit assignment is recommended to WAG:	to be included in the FFA/CO.
	This site DOES NOT meet the requirements for an inactive waste site, DOES included in the INEEL FFA/CO Action Plan.	NOT require investigation and SHOULD NOT be
5.	Basis for the recommendation:	
	The conditions that exist at this site indicate the potential for an inactive waste site or Disturbance of Suspected Inactive Waste Sites.	according to Section 2 of MCP-3448 Reporting
	The basis for recommendation must include: (1) source description; (2) exposure concern; and (4) descriptions of interfaces with other programs, as applicable (e.g.	
6.	Contractor WAG Manager Certification: I have examined the proposed site and the believe the information to be true, accurate, and complete. My recommendation is	
Nai	me: Signature:	Date: